The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEPH S. MAXIM, JR.,
JAMES C. LONG and
DANIEL W. VERSTRAT

Appeal No. 2003-2060
Application No. 09/133,691

ON BRIEF

Before OWENS, KRATZ and DELMENDO, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 3-9 and 11-13, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to an emulsion polymerization reaction product of: (A) a specified amount of an ethylenically unsaturated surfactant monomer having a specified cloud point property and chemical formula as set forth in appealed claim 1; (B) a specified amount of an alpha, beta ethylenically unsaturated monocarboxylic acid with a formula as set forth in

appealed claim 1; and (C) a specified amount of a nonionic alpha, beta ethylenically unsaturated monomer as set forth in appealed claim 1. Appealed claim 1 is reproduced below.

> 1. A hydrophobe-containing alkali soluble or swellable copolymer thickener which provides aqueous compositions with constant or incresed viscosity at temperatures approaching 120°C, wherein said copolymer comprises an emulsion polymerization product of:
>
> (A) from about 0.1 to about 25 weight percent, based on the total weight of the coploymer, of an ethylenically unsaturated copolymerizable surfactant monomer having a cloud point of from about 65°C to about 95°C, wherein the surfactant monomer has the formula
>
> $$M(EO)_X(BO)_zOR^1$$
>
> wherein M is a residue selected from the group consisting of an ethylenically unsaturated carboxylic acid, and an ethylenically unsaturated dicarboxylic acid; EO is an ethylene oxide unit;
> BO is a butylene oxide unit; x is from 10 to 45; z is from 5 to 35; provided that x + z is from 20 to 45; and R^1 is selected from the group consisting of alkyl, alkylene, cycloalkyl, cycloalkylene, and arylalkl group wherein the alkyl group has from 1 to 4 carbon atoms;
>
> (B) from about 20 to about 70 weight percent, based on the total weight of the copolymer, of an α, β-ethylenically unsaturated monocarboxylic acid monomer having the formula
>
> $$CH_2=\underset{\displaystyle R^2}{\underset{|}{C}}-COOH$$

wherein R^2 is selected from the group consisting of hydrogen, an alkyl group having 1 to 4 carbon atoms, and $-CH_2COOR^3$; and R^3 is hydrogen or an alkyl group having 1 to 4 carbon atoms; and

(C) from about 10 to about 70 weight percent, based on the total weight of the copolymer, of a nonionic α, β-ethylenically unsaturated monomer having the formula

$$CH_2 = CR^4R^5$$

wherein R^4 is selected from the group consisting of hydrogen, methyl and Cl; and R^5 is selected from the group consisting of CN, Cl, $COOR^6$, $--C_6H_4R^7$, $--CH=CH_2$,

$$-OCR^8, \quad \text{and} \quad -C-NH_2$$

wherein R^6 is selected from the group consisting of an alkyl group having 1 to 4 carbon atoms; R^7 is an alkyl group having 1 to 12 carbon atoms or a hydroxyalkyl group having 2 to 8 carbon atoms; and R^8 is an alkyl group having 1 to 8 carbon atoms.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Jenkins et al. (Jenkins)	5,461,100	Oct. 24, 1995
Tanaka et al. (Tanaka)	5,661,206	Aug. 26, 1997

Claims 1, 3-9 and 11-13 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under

35 U.S.C. § 103(a) as being unpatentable over Jenkins. Claims 1 and 3-9 stand rejected under 35 U.S.C. § 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Tanaka.

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

OPINION

Upon careful review of the entire record including the respective positions advanced by appellants and the examiner with respect to the rejections that remain before us for review, we find ourselves in agreement with appellants since the examiner has failed to carry the burden of establishing a prima facie case of anticipation or obviousness. Accordingly, we will not sustain the examiner's stated rejections on this record substantially for reasons set forth in appellants' brief.

Concerning the § 102(b) rejection of claims 1, 3-9 and 11-13 over Jenkins, the examiner (answer, pages 3 and 4) takes the position that appellants' monomer (A) of claim 1 is fully described in Jenkins and refers to the formula XIV ethylenically unsaturated macromonomers of Jenkins for that description.

However, as correctly pointed out by appellants (brief, pages 6 and 7), Jenkins does not describe a monomer that includes ethylene oxide (EO) and butylene oxide (BO) blocks in the proportions recited in claim 1 and with the BO block representing the terminal hydrophobe (the block next to an alkoxy terminal group) and a monomer having a cloud point within the range claimed.

The examiner's references to column 6, lines 35-54, column 8, lines 31-60 and column 9, lines 21-35 of Jenkins are noted. However, our review of those sections of Jenkins does not reveal a description of a macromonomer having an R^1 terminal group that is described as an alkoxy group and that has 1 through 4 carbon atoms, notwithstanding the examiner's contrary contention at page 7 of the answer. Nor do we find that Jenkins describes that the formula XIV monomer includes 5-35 BO groups and 10-45 EO groups, arranged as set forth in claim 1. While Jenkins teaches that their formula XIV monomer includes non-termninal OR^2 groups, we can find no description of the specific number and arrangement of the EO and BO groups as required in the appealed claims being specified in Jenkins. Consequently, the examiner has not fairly estabished that the cloud point of the macromonomer of Jenkins necessarily corresponds to that of claim 1, item (A) of

appellants, let alone shown that the claimed reaction product necessarily results from the reacting the monomers described in Jenkins.

Nor do we find that the teachings of Jenkins are sufficient to render the claimed subject matter obvious to one of ordinary skill in the art based on this record. In this regard, the examiner has not reasonably established that one of ordinary skill in the art would have been led to the claimed copolymer reaction product having the claimed properties by way of selection of a surfactant monomer, as called for in the claims, for reaction with the other monomers based on the teachings of Jenkins referred to by the examiner. The examiner's reference to In re Kerkhoven, 626 F.2d 846, 205 USPQ 1069 (CCPA 1980) at page 8 of the answer in support of the examiner's position is misplaced. This is so since the examiner is not here asserting the combination of two known compositions for their expected effect in forming a third composition as part of the case of obviousness presented.

Consequently, we will not sustain either of the examiner's rejections over Jenkins.

With regard to the examiner's § 102(a or e) and § 103(a) rejections of claims 1 and 3-9 over Tanaka, the examiner has

similarly not established where Tanaka dislcoses a monomer corresponding to appellants' monomer (A) of claim 1, let alone a reaction product thereof having the properties claimed herein. While Tanaka (paragraph bridging columns 3 and 4) does describe two alkoxy terminated monomers including EO and BO groups among the many monomers listed in that paragraph, Tanaka does not teach the here claimed relative number and arrangment of such EO and BO groups in the monomer or the claimed cloud point property either expressly or inherently. We note that the examiner has not substantiated how the methoxy polyethylene glycol polybutylene glycol mono(meth)acrylate monomer described in Tanaka would necessarily have the here claimed monomer block arrangement with a terminal BO block (block next to the alkoxy group) and the number of EO and BO blocks and oxygen atoms as expressed in the claimed formula.

Nor has the examiner fairly explained how one of ordinary skill in the art in following the teachings of Tanaka would have been led to a polymer product as here claimed in support of the § 103(a) rejection. Concerning this issue, the examiner's mere assertion of an alleged generic teaching in Tanaka and the argument that one of ordinary skill in the art would have arrived at workable monomers within the scope of appellants' claims by

following the teachings of Tanaka are not persuasive. This is so since the examiner has not fairly explained how one of ordinary skill in the art addressing Tanaka's concern with forming a cement-dispersing agent that results in a cementious composition with high slump without excessive aeration would have been reasonably expected to arrive at the use of monomers in making such a dispersing agent that have the specific EO and BO block arrangement relative to an alkoxy group as specified in claim 1 and having the specified cloud point property. The examiner has not shown where Tanaka provides any guidance suggesting a monomer with specific EO and BO block arrangements with the BO block as the terminal block, let alone a monomer meeting appellants' claimed requirements.

It follows that we will not sustain either of the examiner's rejections over Tanaka, on this record.

CONCLUSION

The decision of the examiner to reject claims 1, 3-9 and 11-13 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Jenkins and to reject claims 1 and 3-9 under 35 U.S.C. § 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Tanaka are reversed.

REVERSED

TERRY J. OWENS Administrative Patent Judge	)
PETER F. KRATZ Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)

PFK/sld

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